

County of Loudoun
Office of Transportation Services
MEMORANDUM

DATE: January 5, 2011

TO: Miguel Salinas, Project Manager
CPAM 2009-0001, Route 28 Keynote Employment Policies

FROM: Andrew Beacher, Director

SUBJECT: **Route 28 CPAM: Supplemental Transportation Discussion and Analysis**

In order to better understand the implications of adding additional trips to the road network as a result of changes in land use proposed with the Route 28 CPAM, County staff worked with VDOT to identify available capacity on a per link basis for the segments of Route 28, Pacific Boulevard, Atlantic Boulevard, Nokes Boulevard, Route 625, Route 606 and Sterling Boulevard within the study area. For each of the identified segments, 2030 daily volumes and capacities (under current land use) were observed and available capacity was calculated by comparing vehicle miles of travel to capacity miles of travel. The results of the analyses indicated that for the corridor as a whole, there is approximately 10-15% available capacity. In other words, the overall volume to capacity (V/C) ratio of this corridor is about 0.85-0.90, which may be interpreted to indicate that the corridor has the capability to absorb some increase in the intensity of land uses. However, it should be noted that the available capacity is not uniform throughout the corridor. For example, between Sterling Boulevard and the Dulles Toll Road, the V/C ratio on Route 28 reaches 1.2. Additionally, the Waxpool Road corridor is projected to be the most congested roadway within the area.

Staff also examined the build-out summaries for each of the land use scenarios. From these scenarios, trips generated by the proposed uses were calculated using conservative estimates based on ITE trip rates. These calculations showed that the proposed changes in land use, depending on the scenario, would result in a roughly 5-10% increase in trips on the road network. These figures represent gross trip generation and do not take into account the use of other modes such as transit (as identified in the 2010 CTP), or the synergy that would likely occur between certain land uses (i.e. mixed use) that ultimately results in fewer vehicle trips (known as internal capture).

Given the above, some observations can be made about the network's ability to absorb the proposed changes in land use. From a broad perspective, a gross increase of 5-10% in vehicle trips could in theory be accommodated by the current planned network, given the available capacity. Where this may become problematic is in the consideration of the location and distribution of those additional trips, especially in light of the known deficiencies in the 2030 network. The distribution of these trips, and thus the impact to each road segment, is something that cannot be determined without a full modeling analysis. Despite not having this specific information, it should be noted that certain network enhancements were recommended for this corridor as part of the inter-jurisdictional group and were developed to specifically target the known deficiencies in the 2030 network. These included (among others):

- The extension of Davis Drive/Atlantic Boulevard south from Route 606, across the Dulles Toll Road and into Fairfax County
- The extension of Sterling Boulevard west from Pacific Boulevard (at Route 28) to Moran Road
- The extension of Pacific Boulevard south from Route 606 to the west side of the interchange at Route 28 and Innovation Avenue.

VDOT staff did model the impacts of these enhancements to the network and found that each of them contributed to improved road network performance. With these improvements in place, additional capacity is freed up or created such that there is increased likelihood that the additional 5-10% in vehicle trips could be potentially accommodated, even in those areas that are currently projected to experience significant congestion. Specifically, the extension of Davis Drive/Atlantic Boulevard across the Dulles Toll Road would provide relief to the section of Route 28 between Sterling Boulevard and the Dulles Toll Road, the extension of Sterling Boulevard west to Moran Road would provide relief to Waxpool Road, and the extension of Pacific Boulevard to Innovation Avenue would provide additional relief to Route 28 as well as the Route 606 interchange.